Chapter 2

AGRICULTURE

Agriculture sector, contributing 22.9 percent in GDP and 37.4 percent in employment generation, ensures food security and provide raw material to the industrial sector. It is also a source of foreign exchange earning and significant for sustainable growth. However, from last couple of years, the country observed climatic shocks which adversely affected agriculture sector. This sector's productivity is highly sensitive to the frequency of adverse climatic events like flood and drought along with abnormal heat waves, rain, and glacial melt. More severely, the prolonged precipitation patterns increase river and inland water levels, resulting in flash and seasonal river and urban flooding commonly experienced in the recent past. Thus, flood hazard remains highly susceptible to other climatic factors, as it badly influences humans' social-economic and politico-cultural domains. During July-August 2022, Pakistan witnessed an unprecedented episode of territorial rains followed by flash flooding that damaged primarily two main sub-sectors, i.e., crops (important and others) and livestock.

Pakistan contributes not even 1 percent of global greenhouse gas emissions but is ranked among the top ten climate-affected countries. Moreover, damages in agriculture sector had spillover effect on industry and allied services sectors. Resultantly, domestic production remained below the required levels, raising the prices of all essential food items to historic high. Restoring the livelihoods of subsistence farmers and livestock keepers was urgent and time sensitive, so that agriculture and livestock activities may be restored to their normal level before the Rabi season. As such, the government took up the matter immediately, allowed import of essential food items on fast-track basis. To lessen the miseries of flood affectees and revival of the agriculture sector, the government announced Kissan Package-2022.

Agriculture Performance 2022-23

Consequent upon the Floods-2022, the Rabi season crops have shown higher yield, which compensated the crop damages of the Kharif season, leading to an overall growth of agriculture sector to 1.55 percent. As such, the production growth of wheat (5.4 percent), sugarcane (2.8 percent), and maize (6.9 percent) compensated the negative growth of cotton (41.0 percent) and rice (21.5 percent). Furthermore, the normalization of livestock activities also led convergence toward the stability path. The overall decline of important crops during this year is 3.20 percent. This year witnessed an increase of 0.23 percent in other crops (contribute 3.32 percent in GDP) primarily due to increase in Oil seeds production by 53.15 percent. Cotton Ginning having share of 0.97 percent in agriculture and 0.22 percent in GDP has declined by 23.01 percent due to decrease in cotton production. However, it is well compensated by the increase in production of other crops.

Livestock having share of 62.68 percent in agriculture and 14.36 percent in GDP, grew at 3.78 percent compared to 2.25 percent during last year. The forestry sector having share of 2.23 percent in agriculture value addition and 0.51 percent in GDP, grew at 3.93 percent against 4.07 percent last year due to increase in timber production. Fishing sector having share of 1.39 percent in agriculture value addition and 0.32 percent in GDP, grew at 1.44 percent compared to 0.35 percent during last year (Table 2.1).

Table 2.1: Agriculture Growth (Base=2015-16)						(%)
Sector	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22(R)**	**2022-23(P)**
Agriculture	**3.88**	**0.94**	**3.91**	**3.52**	**4.27**	**1.55**
1.Crops (i+ii+iii)	4.61	-4.38	6.32	5.83	8.19	-2.49
i) Important Crops	4.27	-8.59	5.24	5.82	5.41	-3.20
ii) Other Crops	4.65	3.62	9.21	7.95	11.93	0.23
iii) Cotton Ginning	8.27	-11.23	-4.06	-13.08	9.22	-23.01
2.Livestock	3.59	3.65	2.80	2.38	2.25	3.78
3.Forestry	2.24	7.22	3.36	3.35	4.07	3.93
4.Fishing	1.57	0.78	0.63	0.73	0.35	1.44

R: Revised P: Provisional
Source: Pakistan Bureau of Statistics

Water availability during Kharif 2022 declined to 43.3 Million Acre Feet (MAF) from 65.1 MAF during Kharif 2021.While for Rabi 2022-23, it stood at 29.4 MAF, recorded an increase of 7 percent over Rabi 2021-22 (Table 2.2).

Table 2.2: Actual Surface Water Availability				(Million Acre Feet)
Period	**Kharif**	**Rabi**	**Total**	**% increase/decrease over the average system usage (103.5 MAF)**
Average system usage	67.1	36.4	103.5	-
2015-16	65.5	32.9	98.4	-4.9
2016-17	71.4	29.7	101.1	-2.3
2017-18	70.0	24.2	94.2	-9.0
2018-19	59.6	24.8	84.4	-18.5
2019-20	65.2	29.2	94.4	-8.8
2020-21	65.1	31.2	96.3	-7.0
2021-22	65.1	27.4	92.5	-10.6
2022-23	43.3	29.4	72.7	-29.8

Source: Indus River System Authority

Box-I: Floods 2022; Damage and Loss in Agriculture

The 2022 monsoon rains followed by flooding were unprecedented in the history of Pakistan and had devastating impacts on the lives and livelihoods of the people, particularly the rural population and those relying on agriculture. The devastating flooding affected 33 million people in 94 districts across Pakistan, took the lives of more than 1,700 people, displaced around 7.6 million people, and resulted in the loss of critical agricultural infrastructure, standing crops, grain storage, and livestock. Sindh and Balochistan provinces were the hardest hit among Pakistan's six provinces/regions. About 14.6 million people were in need of food security and livelihood (agriculture) related emergency assistance.

Pakistan's agriculture sector was the hardest hit sector both in terms of damages and losses. About 4.4 million acres of crops were damaged and around 1 million animals lost. Total damages and losses amounted to US$ 30.13 billion, of which agriculture suffered US$12.9 billion (43% of total damages and losses). The crop sub-sector contributed to 82% of the total damage and losses, livestock to 7%, and fisheries/aquaculture to 1%. Out of the total need of US$16 billion for recovery and reconstruction, US$ 4 billion (25%) was required for the agriculture sector.

The losses and damages in the agriculture sector are expected to spillover effects on lives and livelihoods, poverty levels, food insecurity, and malnutrition, particularly among the poorest and most vulnerable rural communities. The preliminary findings of the Integrated Food Security Phase Classification (IPC) conducted by FAO and IPC partners for 43 vulnerable/flood-affected districts in Sindh, Balochistan and Khyber Pakhtunkhwa in April 2023, estimate around 10.5 million people (29 % of the rural population) are food

insecure (in IPC Phase 3 and 4) during April-October 2023. The number is expected to rise to 11.81 million people (32 % of the rural population) from November 2023 to January 2024.

In the immediate aftermath of the flood disaster, Government organizations at federal & provincial level and development partners especially FAO and partners ran an emergency campaign for most flood-affected farmers across the country. It is highly likely that the agriculture sector will return to normal by the Rabi season 2023, which is evident by the normal harvest of wheat and other food crops.

Source: Food and Agriculture Organization of the United Nations, Pakistan

I. Crop Position

During 2022-23, the contribution of important crops recorded at 18.23 percent to value addition in agriculture sector and 4.18 percent to GDP. Other crops contributed 14.49 percent in value addition of agriculture sector and 3.32 percent in GDP. The data for the last five years regarding area, production and yield of important crops are given in Table 2.3.

a) Important Crops

i) Cotton

During 2022-23, cotton crop is drastically damaged due to the climatic changes. Cotton season started with the 7-10^{0}C rise in temperatures from the last few years in months of March till May coupled with shortage of irrigation water, causing severe heatwave, which affected cotton germination, seedlings growth and leaf wilting problem. This year cotton recorded 0.3 percent contribution to GDP and 1.4 percent to the value added in agriculture. During 2022-23, cotton area sown increased to 2,144 thousand hectares against 1,937 thousand hectares last year, revealing a growth of 10.7 percent. However, due to floods that swept away the entire crops in Sindh & Balochistan its production remained low at 4.910 million bales against last year’s 8.329 million bales, showing a dip of 41.0 percent. In Punjab, cotton producing districts Rajanpur, DG Khan and Taunsa were worst hit and damaged the cotton crop. Moreover, the insect pests, especially Pink bollworm, Whitefly and Thrips remained prevalent during the season.

ii) Sugarcane

Sugarcane is a tropical crop cultivated mainly in Punjab, Sindh and Khyber Pakhtunkhwa. It provides raw material to the 2nd largest agro-based sugar industry over the country. It provides employment to millions of rural farming and non-farming community. In addition, it is a major source of livestock fodder during winter season. Its production accounts for 3.7 percent in agriculture’s value addition and 0.9 percent in GDP.During 2022-23, sugarcane was cultivated on 1,319 thousand hectares showing increase of 4.7 percent compared to 1,260 thousand hectares last year.The main factor contributed to more area sown were lucrative market prices of last year. Its production increased by 2.8 percent to 91.111 million tonnes over last year (88.651 million tonnes).

iii) Rice

After wheat, rice is the second main staple food crop and second major exportable commodity after cotton. It contributes 1.9 percent of value added in agriculture and 0.4 percent in GDP. During the last few years, production of coarse types is increasing as the farmers are bringing more areas under coarse hybrid types. During 2022-23, the crop was cultivated on 2,976 thousand hectares, recorded decline of 15.9 percent over 3,537 thousand hectares last year. Its production declined from 9.323 million tonnes in 2021-22 to 7.322 million tonnes in 2022-23, registering a negative growth of 21.5 percent. Rice production, however, is lower than last year. This less production in combination with high input prices has caused increase in paddy price.

v) Maize

Maize contributes 3.0 percent value added in agriculture and 0.7 percent to GDP. During 2022-23, maize crop was cultivated on 1,720 thousand hectares, showing increase of 4.1 percent over last year’s cultivation of 1,653 thousand hectares. However, its production increased by 6.9 percent to 10.183 million tonnes

from 9.525 million tonnes last year. As such, the increase in production was mainly due to increase in area sown and improved yield.

iv) Wheat

During 2022-23, wheat was cultivated on 9,043 thousand hectares against last year's area of 8,977 thousand hectares recorded increase of 0.7 percent. Wheat contributes 8.2 percent value added in agriculture and 1.9 percent to GDP. The production of wheat stood at 27.634 million tonnes compared to 26.208 million tonnes last year, a growth of 5.4 was observed in wheat production. Wheat production increased as government has announced Kissan Package-22 to mitigate the impact of Flood-2022 losses. The government has also increased Minimum Support Price (MSP) to Rs 3900/40 kg compared to Rs 2200/40 kg ensuring better economic returns to mitigate higher input cost.

Table 2.3: Area, Production & Yield of Important Crops (Area: 000 Hectare; Production: 000 Tonnes; Yield: Kg/Ha)

Year		2018-19	2019-20	2020-21	2021-22	2022-23(P)
Cotton	Area	2,373	2,517	2,079	1,937	2,144
	Change (%)	-	6.1	-17.4	-6.8	10.7
	Production*	9,861	9,148	7,064	8,329	4,910
	Change (%)	-	-7.2	-22.8	17.9	-41.0
	Yield	**707**	**618**	**578**	**731**	**390**
	Change (%)	-	-12.6	-6.5	26.5	-46.6
Sugarcane	Area	1,102	1,040	1,165	1,260	1,319
	Change (%)	-	-5.6	12.0	8.2	4.7
	Production	67,174	66,380	81,009	88,651	91,111
	Change (%)	-	-1.2	22.0	9.4	2.8
	Yield	**60,956**	**63,841**	**69,534**	**70,341**	**69,085**
	Change (%)	-	4.7	8.9	1.2	-1.8
Rice	Area	2,810	3,034	3,335	3,537	2,976
	Change (%)	-	8.0	9.9	6.1	-15.9
	Production	7,202	7,414	8,420	9,323	7,322
	Change (%)	-	2.9	13.6	10.7	-21.5
	Yield	**2,563**	**2,444**	**2,525**	**2,635**	**2,460**
	Change (%)	-	-4.6	3.3	4.4	-6.6
Maize	Area	1,374	1,404	1,418	1,653	1,720
	Change (%)	-	2.2	1.0	16.6	4.1
	Production	6,826	7,883	8,940	9,525	10,183
	Change (%)	-	15.5	13.4	6.5	6.9
	Yield	**4,968**	**5,614**	**6,305**	**5,764**	**5,922**
	Change (%)	-	13.0	12.3	-8.6	2.7
Wheat	Area	8,678	8,805	9,168	8,977	9,043
	Change (%)	-	1.5	4.1	-2.1	0.7
	Production	24,349	25,248	27,464	26,208	27,634
	Change (%)	-	3.7	8.8	-4.6	5.4
	Yield	**2,806**	**2,868**	**2,996**	**2,920**	**3,056**
	Change (%)	-	2.2	4.5	-2.5	4.7

P: Provisional *: Thousand bales
Source: Pakistan Bureau of Statistics

b) Other Crops

During 2022-23, gram production declined by 24.7 percent to 238 thousand tonnes compared to 316 thousand tonnes last year due to decrease in area sown. The production of rapeseed & mustard, bajra and tobacco recorded an increase of 98 percent, 13.3 percent, and 0.1 percent respectively, however production of Jowar and barley declined to 23.4 percent and 2.6 percent, respectively. The area and production of other crops is given in Table 2.4.

Table 2.4: Area and Production of Other Kharif and Rabi Crops (Area: 000 Hectares; Production: 000 Tonnes)

Crops	2021-22		2022-23(P)		% Change in production
	Area	Production	Area	Production	
Bajra	227	226	241	256	13.3
Jowar	77	64	59	49	-23.4
Gram	862	316	830	238	-24.7
Barley	38.2	38	36.1	37	-2.6
Rapeseed & Mustard	276	402	509	796	98.0
Tobacco	43.6	133.6	43.7	133.7	0.1

P: Provisional
Source: Pakistan Bureau of Statistics

During 2022-23, the production of potato increased by 4.8 percent, while there is decrease in the production of moong (48.9 percent), chillies (43.1 percent), mash (31.1 percent), onion (18.3 percent) and masoor (2.6 percent). The area and production of other crops is given in Table 2.5.

Table 2.5: Area and Production of Other Crops (Area: 000 Hectares; Production: 000 Tonnes)

Crops	2021-22		2022-23(P)		% Change in production
	Area	Production	Area	Production	
Masoor	6.4	3.9	6.5	3.8	-2.6
Moong	302	264	218	135	-48.9
Mash	8.0	6.1	7.0	4.2	-31.1
Potato	314	7,937	341	8,319	4.8
Onion	141	2,062	128	1,684	-18.3
Chillies	58	144	31	82	-43.1

P: Provisional
Source: Pakistan Bureau of Statistics

i) Oilseeds

During FY2023 (July-March), 2.681 million tonnes edible oil (including oil extracted from imported oilseed) of value Rs 826.482 billion (US$ 3.562 billion) was imported. Local production of edible oil during FY2023 (July-March), is provisionally estimated at 0.496 million tonnes. Total availability of edible oil during FY2023 (July-March) from imports and local production is estimated at 3.177 million tonnes. The area and production of oilseed crops is given in Table 2.6.

Table 2.6: Area and Production of Major Oilseed Crops (000 Tonnes)

Crops	2021-22			2022-23 (P)		
	Area (000 Acres)	Production		Area (000 Acres)	Production	
		Seed	Oil		Seed	Oil
Cottonseed	4,740	2,126	255	5,103	1,244	149
Rapeseed & Mustard	798	478	153	1,260	785	251
Sunflower	133	83	32	179	124	47
Canola	122	81	31	200	130	49
Total	**5,793**	**2,768**	**471**	**6,742**	**2,283**	**496**

P: Provisional
Source: Pakistan Oilseed Department (POD), Pakistan Bureau of Statistics

Government has taken steps to address various issues of Oilseed Sector. This include a Sub-Group on Oilseeds under Agriculture Task Force and constitution of a committee of all stakeholders for deliberation on policy framework, oilseed production in the country and import substitution of edible oils. Subsequently, the Ministry of National Food Security and Research (MNFS&R) is in process of presenting first ever comprehensive National Oilseed Policy. The policy will focus on enhancing production of edible oils and reduce dependence on imports, improving profitability of the oilseed growers, access to credit facility, availability of good quality sowing seed at reasonable prices, dissemination of latest approved production technology to the oilseed growers. Another key feature of the policy is to recommend measures for improving the quality of edible oils to protect the health of people and rationalize consumption.

Box-II: Kissan Package-2022

Sr. #	Announcement	Current Progress
01	Agri loan disbursement target enhanced from Rs 1,419 billion to Rs 1,819 billion	As of 28th April, 2023 Rs 1.305 trillion has been disbursed as agriculture credit which is around 71.7% of the overall annual target among more than 3 million farmers under revolving credit facility.
02	Waiver of mark-up on outstanding loans for subsistence farmers in the flood affected areas	Mark up of Rs 3.076 billion has been waived off for the flood affected farmers.
03	Provision of subsidy for interest-free loans for subsistence farmers in the flood affected areas	Rs 3.991 billion have been disbursed as interest free loans among flood affected farmers.
04	PM's Youth Business and Agriculture Loan (PMYBAL) scheme	Loans of Rs 5.478 billion have been advanced to farming youth under PMYBAL scheme.
05	Mark-up subsidy and Risk Sharing scheme for farm mechanization	Under Farm Mechanization scheme, so far more than Rs 70 million has been disbursed at 7% mark up for purchase of farm machinery.
06	Reduction in DAP price to Rs 11,250/bag from Rs 13,750 (Rs 2,500/bag)	By negotiations with the private sector a price reduction of Rs 2,500 per bag was achieved. Avg. DAP price on 30th March was Rs 10,431/ bag which is 12.49 % higher than last year.
07	Subsidy on imported Urea	A subsidy of Rs 30 billion was announced on imported urea for the farmers. Avg. Price is Rs 2,779 per bag. Management issues at districts level.
08	Inclusion of Agro-SMEs in SME modernization scheme	Under Agro-SMEs scheme Rs 2.096 billion have been disbursed among agri. Businesses.
09	Interest free loans to landless farmers in the flood affected areas	In the flood affected areas, interest free loans of Rs 2.17 billion were disbursed among 15,710 farmers.
10	PIU value increased from Rs 4,000/- to Rs 10,000/-.	In order to increase access to credit for farming community PIU value increased from Rs 4,000/- to Rs 10,000/-.
11	Import of up to 5-year-old tractors with duty reduction.	To facilitate farm mechanization Import of up to 5-year-old tractors with duty reduction has been allowed.
12	Reduction in CKD duty from 35% to 15% for new tractors manufacturers.	To attract investment in tractor manufacturing, this package has introduced reduction in CKD duty from 35% to 15% for new tractors manufacturers.

Source: Ministry of National Food Security & Research

II. Farm Inputs

i) Fertilizer

Fertilizer, one of the key inputs in determining the crop productivity, contributes on an average 30 to 50 percent towards crop's yield. Share of fertilizer in cost of production of major crops in Pakistan is 10 to 15 percent. Urea and Diammonium Phosphate (DAP) are the major fertilizers used in Pakistan.

Overall domestic production of fertilizers during FY2023 (July-March) decreased by 8.3 percent

over the same period of FY2022.In addition, the import of fertilizer also decreased by 26.2 percent, therefore, total availability of fertilizer decreased by 11.2 percent during FY2023 (July-March). Total offtake of fertilizer nutrient witnessed decrease by 15 percent. Reduction in fertilizers offtake is due to high prices of Phosphatic and Potash fertilizers in international/domestic market and flood 2022. Punjab’s share in urea offtake is 67.7 percent, followed by Sindh (24.4 percent), KP (4.4 percent) and Balochistan (3.5 percent). Subsidy in the form of cheap natural gas and budgeted subsidy was given on RLNG for two urea plants and imported urea by the government during FY2023.

Total availability of urea during Kharif 2022 was about 3,460 thousand tonnes, comprising of 200 thousand tonnes of opening inventory, 3,158 thousand tonnes of domestic production and 103 thousand of imported supply (Table 2.7). Total urea offtake was about 3,137 thousand tonnes, leaving inventory of 294 thousand tonnes for Rabi 2022-23. Availability of DAP was 912 thousand tonnes, comprising of 276 thousand tonnes of opening inventory, 451 thousand tonnes of local production and 185 thousand tonnes of imported supplies. DAP offtake was 490 thousand tonnes leaving an inventory of 460 thousand tonnes for the upcoming Rabi 2022-23.

Rabi 2022-23 started with an opening inventory of 294 thousand tonnes of urea (Table 2.7). Domestic production during Rabi 2022-23 was estimated around 2,928 thousand tonnes and 298 thousand tonnes of imports. Thus, total availability is around 3,520 thousand tonnes. Offtake is estimated around 3,470 thousand tonnes, leaving a closing balance of 67 thousand tonnes for upcoming Kharif 2023. DAP availability during Rabi 2022-23 is estimated about 988 thousand tonnes, which includes 460 thousand tonnes of opening inventory, domestic production of 226 thousand tonnes and 302 thousand tonnes of imported supplies. Offtake of DAP during Rabi season 2022-23 is about 702 thousand tonnes, leaving a balance of 284 thousand tonnes for next season.

Table 2.7: Fertilizer Supply Demand Situation (000 Tonnes)

Description	Kharif (Apr-Sep) 2022		Rabi (Oct-Mar) 2022-23	
	Urea	DAP	Urea	DAP
Opening Stock	200	276	294	460
Imported Supplies	103	185	298	302
Domestic Production	3,158	451	2,928	226
Total Availability	3,460	912	3,520	988
Offtake/Demand	3,137	490	3,470	702
Write on/off	-29	38	17	-1.7
Closing Stock	294	460	67	284

Source: National Fertilizer Development Centre

ii) Improved Seed

Seed is the primary input for the agriculture sector and plays an important role in increasing agricultural productivity and therefore in food security and poverty alleviation. Certified seed is the starting point for a successful harvest as well as an important risk management tool. The production of certified seed is carefully controlled from the beginning under a quality assurance and regulation system. Seed certification is a legally approved system for quality control of seed multiplication and production. Worldwide, it is reckoned that most countries have focused on the use of certified seed to increase its profitable agricultural productivity with the application of internationally acceptable quality parameters.

Achievements in the Seed Sector

1. International Collaboration

In order to develop seed sector in Pakistan, Federal Seed Certification & Research Department (FSC&RD) International Cooperation section was in the process of deliberations through different cooperation proposals with the following countries and

international organizations; Russia, ECO, China, EU, Germany, USA, FAO, Turkey, France, Iran and Norway.

2. Distinctness, Uniformity and Stability (DUS) Examination

A total of about 231 new candidate lines of Vegetables, Pulses, Fruits, Paddy, Maize, Oilseed, Flower, Fodder, Wheat and Cotton have been examined for DUS trials during the period under review. DUS examination is under progress.

3. Track and Traceability of Certified Seed

FSC&RD, in collaboration with provincial agriculture extension departments, has started track and traceability of certified seed so that the impact of these interventions could be calculated at farmer level. The traceability data revealed that total wheat seed availability was 511,378 MT before processing stage, out of which companies processed 462,048 MT and certified seed tags (6,359,482) were issued for 319,937 MT after testing by FSC&RD. A total of 319,937 MT of certified seed of rust tolerant varieties was supplied by the seed dealers. Certified seed was sold to farmers, i.e., 69 percent of total seed availability (40 percent) of total seed requirement (1,142,375 MT). The area, seed requirement and seed availability during FY2023 (July-March), are given in Table 2.8.

Table 2.8: Area, Seed Requirement and Seed Availability (Metric Tonnes)

Crop	Sowing Area (000 Hectare)	Total Seed Requirement	Seed Availability*			
			Public	Private	Imported	Total
Wheat	8,923	1,101,991	49,330	462,049	0	511,379
Cotton	2,077	41,048	386	25,601	0	25,986
Paddy	3,070	45,618	1,940	45,641	4,448	52,029
Maize	1,337	33,012	9	7,141	17,521	24,676
Pulses	1,185	42,674	681	6,017	0	6,699
Oilseeds	830	4,100	9	1,305	367	1,681
Vegetables	280	8,400	13.3	89	2,160	2,262
Fodders	2,038	61,140	0.5	12,068	16,304	28,372
Potato	166	415,000	0	0	2,807	2,807
Total	**19,905**	**1,752,983**	**52,369**	**559,916**	**43,606**	**655,891**

* : The seed availability figures are given provisionally i.e. on the basis of seed sampling and testing uptill now final figure will be available till May,2023

**: Wheat seed testing data is provisional (on the basis of before processing of seed testing). After processing, expected losses are 10 percent and rejection factor of seed lots is around 3 percent. Number of tags issued to any company depends on after processing on after processing seed quantity and market driven demand of seed

Source: Federal Seed Certification & Registration Department, M/o NFS&R

iii) Farm Mechanization

Farm mechanization is an important element to accelerate growth in agriculture sector. The federal government continued the relief allowed on supply of imported farm machinery and equipment through budget FY2023.GST on tractors has been withdrawn and custom duty on agricultural machinery and equipment has been exempted to promote and encourage mechanized farming in the country.

The domestic tractor industry has played a pivotal role in fulfilling the requirements of farming community. The number of operational tractors in the country is around 692,626 resulting in availability of around 0.9 horsepower (HP) per acre against the required power of 1.4 HP per acre. During 2022-23 (July-March), total tractor production stood at 22,626 compared to 41,872 produced over same period last year, showing decrease of 46 percent (Table 2.9).

Table 2.9: Prices, Production and Sales of Locally Manufactured Tractors FY2023 (Jul-Mar)			
Tractors Model-(HP)	**Tractor Price (Rs)**	**Production (Units/ Nos.)**	**Sales (Units/ Nos.)**
Al-Ghazi Tractors Limited			
480-S (55-HP)	1,772,500	2,481	2,156
480-S (Power Plus)	1,847,000	832	736
GHAZI (65-HP)	2,037,000	2,932	2,850
640 (75-HP)	2,651,800	1,553	1,549
Dabang (85-HP)	2,728,300	154	134
NH-70-56 (4*4) (85-HP)	3,564,700	29	33
Total		**7,981**	**7,458**
M/s Millat Tractors Limited			
MF-240 (50 HP)	1,524,000	1,127	1,011
MF-350 Plus (50 HP)	1,770,000	2,140	1,545
MF-260 (60 HP)	1,756,000	268	638
MF-360 (60 HP)	1,856,000	1,638	1,503
MF-360 4WD (60 HP)	2,583,000	1,244	1,103
MF-375 (75 HP)	2,306,000	1,013	501
MF-375 4WD (75 HP)	2,387,000	1,572	2,203
MF-385 (85 HP)	2,989,000	2,500	2,602
MF-385 4WD (85 HP)	3,083,000	3,143	2,669
Total		**14,645**	**13,775**
Grand Total		**22,626**	**21,233**
No GST on tractors is levied in tractors by the government in Budget 2022-23			
Source: Tractor Manufacturers, Federal Water Management Cell			

iv) Irrigation

The monsoon season (July-September) 2022witnessed above normal rainfall defying some historical high records stood at 387.8 mm, showing a drastic increase of 175.3 percent against the normal average rainfall of 140.9 mm. During post-monsoon season (October-December) 2022, rainfall recorded at 21.5 mm against the normal average rainfall of 26.4 mm, showing a decrease of 18.6 percent. However, during winter season (January-March) 2023, rainfall remained below at 63.8 mm against the normal average rainfall of 74.1 mm, revealing a decrease of 13.9 percent. Rainfall recorded during the reference period is given in Table 2.10.

Table 2.10: Pakistan's Rainfall* Recorded During 2022-23			(in Millimetres)
	Monsoon Rainfall (Jul-Sep) 2022	**Post Monsoon Rainfall (Oct-Dec) 2022**	**Winter Rainfall (Jan-Mar) 2023**
Normal**	140.9	26.4	74.1
Actual	387.8	21.5	63.8
Shortage (-)/excess (+)	+246.9	-4.9	-10.3
% Shortage (-)/excess (+)	+175.3	-18.6	-13.9
*: Area Weighted **: Normal/Long Period Average of 1961-2010			
Source: Pakistan Meteorological Department			

Canal head withdrawals decreased by 34 percentduring Kharif 2022 to 43.27 MAF from 65.08 MAF during Kharif 2021.During Rabi 2022-23, it increased to 7 percent to 29.37 MAF from 27.42 MAF during Rabi 2021-22. The province-wise details are shown in Table 2.11.

Table 2.11: Canal Head Withdrawals (Below Rim Stations) (Million Acre Feet)

Province	Kharif (Apr-Sep) 2021	Kharif (Apr-Sep) 2022	% Change in Kharif 2022 Over 2021	Rabi (Oct-Mar) 2021-22	Rabi (Oct-Mar) 2022-23	% Change in Rabi 2022-23 Over 2021-22
Punjab	33.13	26.14	-21	14.65	15.96	9
Sindh	28.96	15.56	-46	11.08	12.31	11
Balochistan	1.94	0.80	-59	1.00	0.80	-20
Khyber Pakhtunkhwa	1.05	0.76	-27	0.70	0.32	-55
Total	**65.08**	**43.27**	**-34**	**27.42**	**29.37**	**7**

Source: Indus River System Authority

Water is essential to meet the food security challenges and to feed the country's growing population. Deforestation, reservoir sedimentation, dwindling river supplies, rising population and climate change impacts have put Pakistan’s limited water resources under immense stress. Extremely inefficient irrigation techniques and practices like flood irrigation, over-exploitation of groundwater, inadequate storage capacity and surface water and groundwater pollution have collectively led to loss of quantity and quality of water. Inadequate budget for the development of water resources is another major issue for completion of ongoing projects causing delay in accruing the proposed benefits.

Storage of flood water and conservative and efficient use of available water resources is direly needed for sustainable irrigation, drinking purpose and industrial growth. Strategy of Integrated Water Resources Management recognizes the need to introduce appropriate policy measures, institutional reforms, and knowledge-based interventions to make water infrastructure and management system more efficient and sustainable.

Main targets for 12 years (i.e., 2018-2030) under National Water Policy (2018) are;

i. 33 percent reduction (i.e., 15.24 MAF) in the 46 MAF river flows lost in conveyance through watercourses lining,

ii. Live storage capacity enhancement of 10 MAF,

iii. 30 percent increase in water use efficiency through modern irrigation techniques. By increasing 30 percent water use efficiency, irrigation efficiency will be increased from 39 percent to 50.7 percent for increase in future agriculture production and food security.

iv. Refurbishment of irrigation infrastructure, real-time monitoring of water distribution for transparent water accounting and development of unified authentic database to have reliable water resources assessment.

According to the National Agriculture Policy of Pakistan (2018), the potential area that can be brought under cultivation in the country is estimated to be around 13.78 million acres.

During FY2023, an amount of Rs 87.055 billion (11.97 percent of total PSDP) was allocated for 76water sector development projects/studies (including Mohmand Dam Rs 12.06 billion, Diamer Basha Dam Rs 20 billion, Diamer Basha Land Acquisition Rs 7 billion and Nai Gaj Dam 5.0 billion). Out of this, Rs 46.904 billion have been Released/Sanctioned till 3rd quarter against which utilization is Rs 35.751 billion. It is expected that entire water sector budget allocation for the FY2023 will be utilized by the end of June, 2023.

Key Achievements of July-March FY2023

- Despite the heavy floods in 2022, construction activities remained in progress on both mega projects of national importance, that is, Diamer Basha Dam and Mohmand Dam projects. Owing to the dwindling water supplies in the country, both the dams are backbone of the agricultural economy of Pakistan. On completion, these dams will greatly mitigate

water shortages by additional storage of 7.076 MAF and power shortages by adding 5,300 MW in the national grid.

- Kachhi Canal (Phase-I) with 102,000 Culturable Command Area (CCA) in Balochistan remained operational. Around 57,000 Acres of this command area has been developed by GoB, and the remaining will be developed. However, command area of remaining works has not yet been developed.
- Work on Kachhi Canal Phase-I (remaining works) having additional 30,000 acres CCA remained in full swing.
- In order to supply irrigation water to cultivatable land in KP and to utilize due share of KP in WAA 1991, PC-I of Chashma Right Bank Canal (Lift-cum-Gravity) (CRBC) amounting Rs 189.606 billion was approved by ECNEC on 07.10.2022. Project aims to irrigate 286,100 Acres of land in KP.
- To reduce the existing shortfall in the water demand currently being faced by Quetta City, revised PC-I of Mangi Dam project amounting Rs 13.248 billion was approved by ECNEC on 06.07.2022. The proposed Mangi Dam will enable a supply of 8.1 mgd (15.1 cusecs) to Quetta City, Balochistan
- Works on Kurram Tangi Dam Phase-I (Kaitu Weir Diversion and allied works) remained in progress in North Waziristan.
- Approval of Sindh Water & Agriculture Transformation Plan (SWAT) amounting to Rs 70.446 billion by ECNEC on 06.12.2022.
- Under Karachi Transformation Plan (Storm Water Drain Projects), Restoration & Revamping of Gujjar Nullah & Orangi Nullah remained in progress.
- Revised PC-I of Naulong Multipurpose Dam Project (Jhal Magsi, Balochistan) amounting to Rs 39.9 billion approved by ECNEC. Key objectives of the project are to provide irrigation water for Command Area Development of 47,000 acres of land and to produce 4.4 MW electricity
- Provision of Rain Water Harvesting in Pakistan Building Code 2022 has been initiated by Pakistan Engineering Council with consultation of M/o PD&SI and other line agencies.

Post-Flood 2022 Scenario

Because of high vulnerability to climate change, Pakistan has experienced devastating calamity in monsoon 2022 caused by heavy rainfall and flash flooding that have severely affected one-third of the country. Flood disaster caused more than1,700 causalities, nearly 8 million people have reportedly been displaced and 33 million people have been affected (PDNA, 2022).

Considering the emergency situation, besides tireless efforts of rescue and relief activates across the country, together with local, national, and international partners, Government of Pakistan with the support of international humanitarian and financial agencies immediately intimated rehabilitation, reconstruction activities and taken policy decisions to recover from the impacts of this calamity. Some of the measures taken by Government of Pakistan in Post- Flood 2022 scenario are illustrated as under:

- Honorable Prime Minister of Pakistan issued directives for updation of National Flood Protection Plan-IV (NFPP-IV) in line with Flood 2022 scenario considering flood protection measures against flash floods and hill torrents. Accordingly, updation of NFPP-IV has been initiated.
- Approval of Emergency Flood Assistance Project, Sub Head Reconstruction & Rehabilitation of Irrigation Infrastructure at Balochistan amounting to Rs 12.5 billion by ECNEC on 06.12.2022.
- Approval of Post-Flood 2022 Reconstruction Programme: Resilience Enhancement and Livelihood Diversification in Balochistan (Umbrella PC-I) amounting to Rs 88.0 billion by ECNEC on 04.01.2023
- Approval of Sindh Flood Emergency Rehabilitation Project (Irrigation

Component) amounting to Rs 48.327 billion by ECNEC on 06.12.2022.

- Approval of Reconstruction & Rehabilitation of Irrigation, Drainage System and flood protection works in KP amounting to Rs 15.0 billion by ECNEC on 06.12.2022.
- Physical progress of the major on-going projects is givenTable 2.12.

Table 2.12: Major Water Sector Projects under Implementation

Project	Location	App. cost (Rs million)	Live Storage	Irrigated Area	Status
Diamer Basha Dam (Dam Part only)	KP & GB	479,686	6.40 MAF	1.23 Million Acres	ECNEC approved dam part of the project on 14-11-2018 (out of Rs 479 billion Rs 237 billion will be federal grant, Rs 144 billion commercial financing, Rs 98 billion WAPDA equity). Physical progress is 9 percent.
Mohmand Dam Hydropower Project (800 MW)	Mohmand District, KP	114,285 (dam part) cost	0.676 MAF	16,737 Acres	Phase-I ECNEC approved on 30-06-2018 at a total cost of Rs 309.558 billion (dam part+ power generation cost). Physical progress is 20.4percent.
Kachhi Canal (Phase-I)	Balochistan	80,352	-	72,000 Acres	Phase-I completed. Out of 102,000 acres CCA about 57,000 acres developed in Dera Bugti, Balochistan. However, command area of remaining works has not yet been developed. Physical progress is 99.87 percent.
Nai Gaj Dam	Dadu, Sindh	46,980	160,000 (AcreFeet)	28,800 Acres (4.2 MW Power Gen.)	Physical Progress 42.78 percent.
KurramTangi Dam (Phase-I,Kaitu Weir)	KP	21,059	0.90 MAF	16,400 Acre (18.9 MW Power Gen.)	Physical Progress 64.7 percent
Naulong Dam	JhalMagsi, Balochistan	39,900	0.20 MAF	47,000 Acres (4.4 MW Power Gen.)	Updated 2nd revised PC-I approved by ECNEC on 07.10.2022. Physical Progress 1.75 percent.
Mangi Dam Project	On Khost river, Quetta Balochistan	13,248	29509.78 (Acre Feet)	8.1 MGD	Revised PC-I approved on 06.07.2022. Physical Progress 57.3 percent.
Hingol Dam	Lasbela, Balochistan	421.372	0.816 (MAF)	65,000 Acres (1.37 MW Power Gen.)	Detailed Engg. Design is in progress. 16 percent progress achieved.
Murunj Dam	Rajanpur, Punjab.	349.956	0.60 (MAF)	120,000 Acres (12 MW Power Gen.)	Feasibility study progress is 90 percent.
Sindh Barrage	Thatta, Sindh.	327.528	1.80 (MAF)	-	Feasibility study progress is 96 percent.
K-IV Greater Water Supply Scheme	Sindh	126,000	-	260 MGD (Water Supply)	Physical Progress 1.0 percent.
Chashma Right Bank Canal (CRBC) Lift-cum-Gravity	KP	189,606.428	-	286,100 Acres	ECNEC approved the PC-I on 07.10.2022
Restoration & Revamping of Gujjar Nullah	Sindh	14,854	-	To mitigate urban flooding in	Physical Progress 80 percent. Financial Progress 85.79 percent as per revised approved PC-I

Table 2.12: Major Water Sector Projects under Implementation

Project	Location	App. cost (Rs million)	Live Storage	Irrigated Area	Status
Restoration & Revamping of Orangi Nullah	Sindh	15,007.25	-	metropolitan city of Karachi -	Physical Progress 75 percent. Financial Progress 90.79 percent as per revised approved PC-I

Source: Ministry of Planning, Development & Special Initiatives

iv) Agricultural Credit

SBP has allocated the indicative agricultural credit disbursement target of Rs 1,819 billion for FY2023, which is 28.2 percent higher than last year's disbursement of Rs 1,419 billion. Currently, 46 formal financial institutions are providing agriculture loans to the farming community, which include 5 major commercial banks, 13 medium sized domestic private banks, 6 Islamic banks, 02 specialized banks (ZTBL & PPCBL) and 11 microfinance banks besides 9 Microfinance Institutions/Rural Support Programmes (MFIs/RSPs).

During FY2023 (July-March), the agriculture lending financial institutions have disbursed Rs 1,222 billion, which is 67.2 percent of the overall annual target and 27.5 percent higher than Rs 958.3 billion disbursed during the same period last year. Further, the outstanding portfolio of agricultural loans has increased by Rs 80.2 billion and reached Rs 712.9 billion at end March 2023 compared to Rs 632.7 billion at end March 2022, witnessing 12.7 percent growth. In terms of outreach, the number of outstanding borrowers has reached 3.04 million in March 2023. The comparative disbursements of agriculture lending banks/institutions against their annual indicative targets during FY2023 (July-March) are given in Table 2.13.

Table 2.13: Supply of Agriculture Credit by Institutions (Rs Billion)

Banks	Target FY2022	FY2022 (July-March)		Target FY2023	FY2023 (July-March)		% Change over the Period
		Disbursed	Achieved (%)		Disbursed	Achieved (%)	
5 Major CBs	900	525.7	58.4	966	666.7	69.0	26.8
ZTBL	105	47.0	44.8	124	47.1	38.0	0.2
PPCBL	13	4.8	36.9	13	6.2	47.7	29.1
DPBs (13)	327	196.1	60.0	350	259.6	74.2	32.4
IBs (6)	120	54.0	45.0	103	62.0	60.2	14.9
MFBs (11)	195	112.1	57.5	230	158.7	69.0	41.5
MFIs/RSPs	40	18.6	46.6	33	21.6	65.4	15.9
Total	**1,700**	**958.3**	**56.4**	**1,819**	**1,221.9**	**67.2**	**27.5**

Source: State Bank of Pakistan

Analysis of the sector-wise disbursement reveals that out of the total disbursement of Rs 1,221.9 billion, the farm sector has received Rs 625.1 billion (51.2%) and Rs 596.8 billion (48.8%) has been disbursed to non-farm sector during July-March FY2023. However, the data of farm credit by land holdings reveals that Rs 234.4 billion has been disbursed to the subsistence farm size which witnessed 37.5 percent growth during the period. Moreover, Rs 83.1 billion has been disbursed to economic farm size and Rs 307.7 billion to above economic farm size witnessing a growth of 29.7 percent. Under non-farm sector, agriculture lending institutions disbursed Rs 170.3 billion to small farms with positive growth mainly due to credit off take in non-farm sector activities, especially in livestock/dairy and meat sector. Moreover, Rs 426.6 billion has been disbursed to large farms showing a growth of 19.8 percent during July-March FY2023.The sector-wise comparative details of credit disbursements are given in Table 2.14.

Table 2.14: Credit Disbursement to Farm & Non-Farm Sectors (Rs Billion)

	Sector (Land Holding/Farm size)	FY2022 (July-March) Disbursement	FY2022 (July-March) % Share in Total	FY2023 (July-March) Disbursement	FY2023 (July-March) % Share in Total	% Growth over the Period
A	**Farm Sector**	**474.0**	**49.5**	**625.1**	**51.2**	**31.9**
1	Subsistence Holding[1]	170.5	17.8	234.4	19.2	37.5
2	Economic Holding[2]	66.2	6.9	83.1	6.8	25.5
3	Above Economic Holding[3]	237.3	24.8	307.7	25.2	29.7
B	**Non-Farm Sector**	**484.3**	**50.5**	**596.8**	**48.8**	**23.2**
1	Small Farms	128.2	13.4	170.3	13.9	32.8
2	Large Farms	356.0	37.2	426.6	34.9	19.8
Total (A+B)		**958.3**	**100.0**	**1,221.9**	**100.0**	**27.5**

Source: State Bank of Pakistan

In terms of sectoral and purpose-wise performance of agriculture credit, the production loans of farm sector increased by 35.3 percent, whereas development loans declined by 13.8 percent during July-March FY2023. Further, under non-farm sector, the livestock/dairy and meat sector witnessed 20.2 percent growth and poultry sector recorded 25.5 percent growth during the period under review. The sector-wise/purpose-wise agricultural credit disbursements are shown in Table 2.15:

Table 2.15: Credit Disbursements by Sector and Purpose (Rs Billion)

	Sector& Purpose	FY2022 (July-March) Amount Disbursed	FY2022 (July-March) % Share within Sector	FY2023 (July-March) Amount Disbursed	FY2023 (July-March) % Share within Sector	% Growth over the Period
A	**Farm Sector**	**474.0**	**49.5**	**625.1**	**51.2**	**31.9**
1	Production Loans	441.3	93.1	596.9	95.5	35.3
2	Development Loans	32.7	6.9	28.2	4.5	-13.8
B	**Non-Farm Sector**	**484.3**	**50.5**	**596.8**	**48.8**	**23.2**
1	Livestock/Dairy & Meat	269.7	55.7	324.1	54.3	20.2
2	Poultry	168.9	34.9	212.0	35.5	25.5
3	Fisheries	9.6	2.0	13.1	2.2	36.9
4	Forestry	-	-	0.008	0.001	-
5	Others	36.1	7.5	47.5	8.0	31.7
Total (A+B)		**958.3**	**100**	**1,221.9**	**100**	**27.5**

Source: State Bank of Pakistan

SBP's Initiatives for the Promotion of Agriculture Financing

For promotion of agricultural financing, some of the major initiatives taken by SBP in collaboration with federal and provincial governments are as under:

A. PM's Kissan Package 2022: To facilitate farmers and revive the economic activities in flood affected areas, SBP is implementing various agricultural financing related components of PM's Kissan Package-2022 as given in Box-II. Besides above dedicated schemes for agriculture, agro-based SMEs have also been allowed to avail financing under SBP's ongoing scheme for SME Modernization, in line with PM's Kissan Package-2022.

B. Adoption of Agriculture Credit Scoring Model for Banks' Performance: SBP has introduced a scoring model to monitor agriculture credit performance of banks and

[1] Landholding in acres (Punjab and KP up to 12.5, Sindh up to 16.0 and Balochistan up to 32.0)
[2] Landholding in acres (Punjab and KP 12.5-50.0, Sindh 16.0-64.0 and Balochistan 32.0-64.0)
[3] Landholding in acres (Punjab and KP above 50.0, Sindh and Balochistan above 64.0)

to promote fairness and transparency in gauging the individual performances of agriculture lending banks. The scoring model uses multi-dimensional criteria based on various indicators to reflect the numerical value of each bank's performance on agriculture credit. The objective of scoring model is to increase banks' focus on key areas that must be catered for enhancing agriculture financing in the country.

C. **Introduction of Champion Bank Concept for Underserved Areas:** To address the challenge of increasing agriculture credit outreach in underserved areas, SBP has introduced the concept of provincial/regional Champion Banks in underserved areas. In this regard, SBP has nominated six banks as Champion Banks. These banks spearhead the efforts in their respective assigned underserved areas/regions from Southern Punjab, Sindh, KP, Balochistan, AJK and GB to enhance the flow of credit and bring more borrowers into the fold of formal credit network. To implement this model, six Regional Agricultural Coordination Committees (RACCs) have been established under the Champion Banks and the committees consist of members from banks, provincial governments, agriculture chambers and other stakeholders, etc. Accordingly, the quarterly RACC meetings were regularly conducted in respective underserved regions wherein the decisions/activities for the promotion of agriculture sector are being undergone successfully.

D. **Implementation of Risk Mitigation and Incentive Schemes**

i. **Crop Loan Insurance Scheme (CLIS) & Livestock Insurance Scheme for Borrowers (LISB):** Under CLIS and LISB, GoP bears insurance premium for small farmers availing agriculture credit from banks for cropping or livestock purposes. During the period from July 2008 to June 2022, banks have submitted premium claims of Rs 10.6 billion against 6.9 million beneficiaries. Insurance premium for small livestock farmers, availing bank financing, continues to benefit farmers as premium claims of Rs 3.09 billion against 0.91 million beneficiaries have been received during period July 2014-June 2022.

ii. **Credit Guarantee Scheme for Small & Marginalized Farmers (CGSMF):** With the support from federal government, SBP has been offering CGSMF since 2016. This scheme can be availed by banks for providing loans to small farmers, with default protection of up to 50 percent. The scheme has been recently merged into Interest Free Loans & Risk Sharing Scheme for Landless Farmers (IF&RSLF) for 6 months to facilitate revival of flood affected small farmers. Since inception of the scheme, more than 150,000 farmers have benefitted from the scheme against Rs 1.1 billion funds released by the federal government. However, more funds have been committed by the GoP under IF&RSLF to carry-out the scheme in flood affected areas.

E. **Implementation of Electronic Warehouse Receipt Financing (EWRF) uptake strategy:** EWRF is a form of credit, extended by banks to farmers, traders and processors against commodities/agricultural produce stored in accredited warehouses. In order to allow banks to start EWRF in line with SECP's Collateral Management Company (CMC) Regulations 2019, SBP issued necessary amendments in its Prudential Regulations while allowing EWRs as acceptable collateral for bank financing. Further, to sensitize banking industry and kick start EWRF in Pakistan, SBP formally rolled-out EWRF Uptake Action Plan in February 2022 wherein 25 banks signed the System Usage Agreements (SUA) with CMC. EWRF is initially started for maize and rice crops in four districts of Punjab, that is, Okara, Sheikhupura, Hafizabad and Kasur. In this regard, financing targets on pilot scale have been assigned to banks for FY2022 and FY2023.

III. Forestry

According to the latest findings of National Forest Reference Emissions Level (FREL), the forest covered area in the country is 4.786

million hectares, which is 5.45 percent of the total area. Within the forest cover area, dry temperate forests hold the largest share (36 percent), followed by sub-tropical broadleaved shrub (19 percent), moist temperate (15 percent), Chir Pine (13 percent), Riverine (4 percent), irrigated plantation (4 percent), thorn (3 percent), mangrove (3 percent) and subalpine forests (2 percent). The rapid growth in population and dependence on the natural resources posed negative impact on forestation and rendered the country one of the most vulnerable to climate change effects. As a result, natural resources are under tremendous pressure owing to change of land use and habitat destruction and consumption of fuel wood and timber extraction. Such pressures have rendered most of the forests of poor and medium density in need of drastic restocking on war footing.

IV. Livestock and Poultry

a) Livestock

The livestock sector has emerged as the largest contributor to agriculture, accounting for approximately 62.68 percent of the agriculture value added and 14.36 percent of the national GDP during FY2023. Animal husbandry is a critical economic activity for rural dwellers in Pakistan, with over 8 million rural families engaged in livestock production and deriving from 35 to 40 percent of their income from this sector.

The gross value addition of livestock has increased to Rs 5,593 billion in FY2023 from Rs 5,390 billion in FY2022, indicating a growth of 3.8 percent. Additionally, the net foreign exchange earnings of the livestock sector contribute around 2.1 percent of the total exports in the country.

The government has recognized the potential of this sector for economic growth, food security, and poverty alleviation in the country, and has accordingly focused on its development. The overall strategy for livestock development revolves around promoting "private sector-led development with public sector providing enabling environment through various policy interventions". Regulatory measures have been implemented to enhance per unit animal productivity by improving veterinary health coverage, husbandry practices, animal breeding practices, artificial insemination services, use of balanced ration for animal feeding, and controlling livestock diseases of trade and economic importance, such as Foot & Mouth Disease (FMDE), Peste des petits ruminants (PPR), and Avian Influenza.

To address investment-related issues in the value-added livestock export sector, the government is developing export meat processing zones and disease-free zones for FMD, PPR, HPAI, among others. The government is also establishing the modern slaughterhouses based on the industry's requirements. To boost livestock sector, financial sector provides various schemes for a limited period.

The focus of the present government is on breed improvement for enhanced productivity, establishing a nucleus herd, identifying breeds that are well adapted to various agro-ecological zones of Pakistan, and importing high-yielding exotic dairy, beef, mutton breeds, and genetic materials. By implementing these measures, the government aims to stimulate growth in the livestock sector, generate employment opportunities, and contribute to the overall economic growth and food security of the country. The national herd population of livestock for the last three years is given in Table 2.16.

Table 2.16: Estimated Livestock Population (Million Numbers.)

Species	2020-21[1]	2021-22[1]	2022-23[1]
Cattle	51.5	53.4	55.5
Buffalo	42.4	43.7	45.0
Sheep	31.6	31.9	32.3
Goat	80.3	82.5	84.7
Camels	1.1	1.1	1.1
Horses	0.4	0.4	0.4

Table 2.16: Estimated Livestock Population			(Million Numbers.)
Species	**2020-21[1]**	**2021-22[1]**	**2022-23[1]**
Asses	5.6	5.7	5.8
Mules	0.2	0.2	0.2

1: Estimated figure based on inter census growth rate of Livestock Census 1996 & 2006

Source: Ministry of National Food Security & Research

The position of milk and meat production for the last three years is given in Table 2.17.

Table 2.17: Estimated Milk and Meat Production			(000 Tonnes)
Species	**2020-21[1]**	**2021-22[1]**	**2022-23[1]**
Milk (Gross Production)	**63,684**	**65,745**	**67,873**
Cow	23,357	24,238	25,151
Buffalo	38,363	39,503	40,678
Sheep[2]	41	42	42
Goat	991	1,018	1,046
Camel[2]	932	944	956
Milk (Human Consumption)[3]	**51,340**	**52,996**	**54,707**
Cow	18,686	19,390	20,121
Buffalo	30,691	31,603	32,542
Sheep	41	42	42
Goat	991	1,018	1,046
Camel	932	944	956
Meat[4]	**4,955**	**5,219**	**5,504**
Beef	2,380	2,461	2,544
Mutton	765	782	799
Poultry meat	1,809	1,977	2,160

1: The figures for milk and meat production for the indicated years are calculated by applying milk production parameters to the projected population of respective years based on the inter census growth rate of Livestock Census 1996 & 2006.

2: The figures for the milk production for the indicated years are calculated after adding the production of milk from camel and sheep to the figures reported in the Livestock Census 2006.

3: Milk for human consumption is derived by subtracting 20 percent wastage (15 percent faulty transportation and lack of chilling facilities and 5 percent in suckling calf nourishment) of the gross milk production of cows and buffalo.

4: The figures for meat production are of red meat and do not include the edible offal's.

Source: Ministry of National Food Security & Research

The estimated production of other livestock products for the last three years is given in Table 2.18.

Table 2.18: Estimated Livestock Products Production				
Products	**Units**	**2020-21[1]**	**2021-22[1]**	**2022-23[1]**
Eggs	Million Nos.	21,285	22,512	23,819
Hides	**000 Nos.**	**18,751**	**19,384**	**20,039**
Cattle	000 Nos.	9,759	10,127	10,509
Buffalo	000 Nos.	8,878	9,142	9,414
Camels	000 Nos.	114	115	117
Skins	**000 Nos.**	**60,837**	**62,250**	**63,697**
Sheep Skin	000 Nos.	11,947	12,088	12,231
Goat Skin	000 Nos.	30,946	31,784	32,645
Fancy Skin	000 Nos.	17,945	18,377	18,821
Lamb Skin	000 Nos.	3,548	3,590	3,633
Kid Skin	000 Nos.	14,397	14,787	15,188
Wool	000 Tonnes	47.9	48.4	49.0
Hair	000 Tonnes	30.2	31.0	31.8
Edible Offal's	000 Tonnes	452	465	478
Blood	000 Tonnes	75.0	77.0	79.0
Casings	000 Nos.	61,461	62,888	64,351
Guts	000 Nos.	19,929	20,599	21,292

Table 2.18: Estimated Livestock Products Production

Products	Units	2020-21[1]	2021-22[1]	2022-23[1]
Horns & Hooves	000 Tonnes	66.2	68.2	70.2
Bones	000 Tonnes	990.3	1,020.7	1,052.0
Fats	000 Tonnes	313.6	322.9	332.5
Dung	000 Tonnes	1,405	1,448	1,493
Urine	000 Tonnes	425	437	450
Head & Trotters	000 Tonnes	282.4	290.4	298.7
Ducks, Drakes & Ducklings	Million Nos.	0.37	0.35	0.34

1: The figures for livestock product for the indicated years were calculated by applying production parameters to the projected population of respective years.

Source: Ministry of National Food Security & Research

b) Poultry

The poultry sector is a critical component of the livestock industry, providing employment opportunities to over 1.5 million people in Pakistan. With a substantial investment of more than Rs 1,056 billion, this industry has experienced impressive growth, averaging a remarkable 7.3 percent annual growth rate over the past decade. This expansion has led to Pakistan becoming the eleventh largest poultry producer in the world, with vast potential for future growth and advancement.

To further strengthen and develop this industry, the poultry development strategy focuses on key areas such as disease control, utilizing cutting-edge technology for poultry production in controlled environments, processing and value addition, improving poultry husbandry practices, and expanding product diversification. To achieve these goals, the GoP has implemented farmer-friendly policies and interventions to support both rural and commercial poultry production. The estimated production of commercial and rural poultry products for the last three years is shown in Table 2.19.

Table 2.19: Estimated Domestic/Rural & Commercial Poultry

Type	Units	2020-21[1]	2021-22[1]	2022-23[1]
Domestic Poultry	**Million Nos.**	**91.22**	**92.62**	**94.04**
Cocks	Million Nos.	12.85	13.20	13.55
Hens	Million Nos.	44.72	45.52	46.34
Chicken	Million Nos.	33.65	33.90	34.15
Eggs[2]	Million Nos.	4,472	4,552	4,634
Meat	000 Tonnes	127.22	129.76	132.36
Duck, Drake & Duckling	**Million Nos.**	**0.37**	**0.35**	**0.34**
Eggs[2]	Million Nos.	16.47	15.78	15.12
Meat	000 Tonnes	0.50	0.48	0.46
Commercial Poultry	**Million Nos.**	**1,486.09**	**1,632.06**	**1,792.46**
Layers	Million Nos.	64.01	68.49	73.28
Broilers	Million Nos.	1,407.73	1,548.51	1,703.36
Breeding Stock	Million Nos.	14.34	15.06	15.81
Day Old Chicks	Million Nos.	1,470.38	1,617.41	1,779.16
Eggs[2]	Million Nos.	16,797	17,944	19,170
Meat	000 Tonnes	1,681.64	1,846.48	2,027.57
Total Poultry				
Day Old Chicks	Million Nos.	1,504	1,651	1,813
Poultry Birds	Million Nos.	1,578	1,725	1,887
Eggs	Million Nos.	21,285	22,512	23,819
Poultry Meat	000 Tonnes	1,809	1,977	2,160

1: The figures for the indicated years are statistically calculated using the figures of 2005-06.
2: The figures for Eggs (Farming) and Eggs (Desi) are calculated using the poultry parameters for egg production.

Source: Ministry of National Food Security & Research

Impact of Floods July-August 2022 on Livestock Sector

The floods that occurred from July-August 2022 in Pakistan, as a result of heavy rainfall, have had a devastating impact on the livestock sector. According to NDMA updates dated 18-11-2022, estimated 1,164,270 livestock perished (Balochistan: 500,000 (42.9%), Sindh: 436,435 (37.5%) and Punjab: 205,106 (17.6%), KP: 21,328 (1.8%), AJK: 792 (0.1%) and GB 609 (0.1%) have perished because of the floods. The highest number of animal deaths occurred in Balochistan, followed by Sindh, Punjab, KP, while AJK and GB had comparatively fewer losses of animals and poultry birds.

Impact of Lumpy Skin Disease (LSD) on Livestock Sector

LSD is a vector borne viral disease of cattle and buffalo, emerged in Pakistan in November 2021 and has since spread throughout all four provinces, including GB and AJK. The disease is characterized by the appearance of nodules or lumps on the skin of affected animals, which can range in size from a few millimeters to several centimeters. The disease is transmitted by insect vectors, such as biting flies or mosquitoes, as well as through direct contact between infected and susceptible animals. The primary reason behind the spread of the disease in Pakistan was the mass movement of sacrificial animals during Eid-ul-Azha. Around 221,339 cases have been reported in Pakistan, but the actual number is likely higher due to the absence of a real-time disease surveillance system.

Although the mortality rate is currently less than 1 percent but has caused significant economic losses in terms of reduced milk and meat production, abortions, infertility, damage to hides of affected cattle, trade restrictions on animal products, loss of livelihoods for farmers, and distortion in the milk and meat value chain. Exotic breeds have been found to be more susceptible to the disease than local breeds, and a limited survey in the in districts of Rahim Yar Khan and Chakwal found that milk production was reduced by 72 to 73 percent for at least 60 days post-disease onset. The estimated economic loss, if the disease remains uncontrolled, is Rs 80.4 billion based on the total susceptible cattle population of 53.4 million in the country.

There is currently no specific treatment for lumpy skin disease, and prevention efforts focus on vaccination and vector control measures. Vaccination has been shown to be effective in reducing the incidence and severity of the disease and can help to limit its spread.

Table 2.20 provides summary statistics of LSD cases reported in Pakistan by respective provincial livestock departments. Punjab has the lowest morbidity rate of 0.239 percent, while AJK has the highest morbidity rate of 1.165 percent. KP has the highest mortality rate of 0.0532 percent. The total number of cases in Pakistan is 221,399, with 38,092 animal deaths and a mortality rate of 0.0917 percent.

Table 2.20: Summary Statistics of LSD Cases in Pakistan (Numbers)

Province /Administrative Unit	Cattle population	Total Cases	Animals Recovered	Animals Died	Animals Vaccinated	Mortality Rate (%)	Morbidity Rate (%)
Punjab	14,635,446	35,046	26,509	1,242	2,261,178	0.0085	0.239
Sindh	11,392,469	53,668	53,097	571	3,711,538	0.0050	0.471
KP	8,837,227	92,357	52,002	34,818	1,262,797	0.0532	0.844
Balochistan	6,140,540	22,225	12,520	469	89,586	0.0076	0.362
GB	-	-	-	-	-	-	-
AJK	545,239	18,103	15,874	992	127,501	0.0653	1.165
Pakistan	**41,550,921**	**221,399**	**160,002**	**38,092**	**7,452,600**	**0.0917**	**0.533**

-:no data is provided / available
Source: Ministry of National Food Security & Research

Ongoing Projects

The federal government has launched following programmes under the Prime Minister's National Agriculture Emergency Programme:

Prime Minister Initiative for Backyard Poultry Project: This project aims to distribute five million high-laying backyard birds to the public across the country over a period of four years, at subsidized rates. These birds have already been pre-vaccinated, making them a low-maintenance and sustainable source of animal protein, which can help combat undernourishment in the population.

The total cost of the project is Rs 1.6 billion, with 30 percent of the funding being contributed jointly by the federal and provincial governments. The remaining cost will be borne by the beneficiaries. Since its launch in July 2019, the project has distributed 3,257,205 backyard poultry birds to 454,293 beneficiaries across the country.

Prime Minister Initiative for Save the Calf Project: This project aims to save 380,000 male calves from early slaughter over a period of four years by providing financial incentives of Rs 6,500 per calf to farmers. In addition to reducing mortality rates through improved nutrition and husbandry practices, this intervention also provides stock for feedlot fattening, which enhances productivity and results in higher quality beef, leading to increased profits for farmers and reduced rural poverty.

The total cost of the project is Rs 3.4 billion, with the federal government contributing 20 percent of the total cost and the remaining funding being shared by provincial governments. Since its launch in July 2019, the project has saved 201,286 calves through financial and technical support to 106,593 farmers across the country. In addition, 69,413 farmers have received training on improved husbandry practices and the calf-rearing business model.

Prime Minister Initiative for Calf Feedlot Fattening in Pakistan: Under this project Rs 4,000 for each calf in the country, while in Balochistan a cash incentive of Rs 1500 is given for each fattened sheep/goat. This intervention promotes feedlot fattening as a viable business in the country, ultimately leading to economic growth and poverty reduction. The total cost of the project is Rs 2.4 billion. Since its launch in July 2019, the project has provided financial and technical support to 54,817 farmers across the country, resulting in the fattening of 235,667 calves. In Balochistan, 310,000 kid/lambs have been fattened for mutton production. In addition, 47,059 farmers have been trained on improved husbandry practices and the feedlot fattening business model.

V. Fisheries

Fisheries as a sub-sector of agriculture plays significant role in the economy and towards food security of the country as it reduces pressure on demand for mutton, beef, and poultry. During FY2023 (July-March), total fish production remained at 700 thousand MT (marine: 475 thousand MT and inland: 225 thousand MT) showing an increase of 0.6 percent compared to same period of last year’s fish production of 696 thousand MT (marine: 468 thousand MT and inland: 228 thousand MT).

Pakistan’s major fish & fish preparations buyers are China, Thailand, Malaysia, Middle East, Sri Lanka, and Japan etc. During FY2023 (July-March), a total of 151.030 thousand MT (US$ 355 million) of fish & fish preparations were exported compared to 116.333 thousand MT (US$ 309 million) during same period last year showing an increase of 29.8 percent in quantity and 14.8 percent in value terms. Since resumption of exports to the EU countries, different consignments of finfish and shellfish have been sent by 03 companies to the EU, which successfully cleared after 100 percent laboratory analysis at EU borders. Further, a number of initiatives are being taken by federal and provincial fisheries departments which include, inter alia, strengthening of extension services. Export of seafood to EU countries is given in Table 2.21:

Table 2.21: Export of Seafood to EU Countries FY2023 (July-March)

Commodity/ Country	Fish		Squids		Shrimp		Crabs		Total	
	Quantity (MT)	Value US$ (000)	Quantity (MT)	Value US$ (000)	Quantity (MT)	Value US$ (000)	Quantity (MT)	Value US$ (000)	Quantity (MT)	Value US$ (000)
Belgium	410	1,036	-	-	1,235	5,440	-	-	1,645	6,476
Netherlands	99	369	-	-	56	236	-	-	155	605
Spain	-	-	112	296	-	-	-	-	112	296
UK	736	2,632	-	-	269	519	8	46	1,013	3,197
Total	**1,245**	**4,037**	**112**	**296**	**1,560**	**6,195**	**8**	**46**	**2,925**	**10,574**

Source: Marine Fisheries Department

Outlook:

To overcome flood losses during 2022 and uplift the agriculture sector, the government has taken various above narrated measures which would have positive impact on the sector. The better crop productivity is expected for upcoming years, due to various incentives for the farmers and the sector. The increase in agriculture productivity would directly be contributed to the GDP and indirectly have long lasting effect on the overall economy of the country by enhancing the income of the common peasants.

TABLE 2.1 A

PRODUCTION INDEX OF IMPORTANT CROPS

Fiscal Year	Food crops			Cash crop	Fiber crop
	Wheat	Maize	Rice	Sugarcane	Cotton
	Base Year 2005-06				
2005-06	100.0	100.0	100.0	100.0	100.0
2006-07	109.5	99.3	98.0	122.6	98.7
2007-08	98.5	115.9	100.3	143.1	89.5
2008-09	113.0	115.5	125.3	112.0	90.8
2009-10	109.6	104.9	124.1	110.5	99.2
2010-11	118.5	119.2	87.0	123.8	88.0
2011-12	110.3	139.5	111.1	130.7	104.4
2012-13	113.8	135.7	99.8	142.7	100.1
2013-14	122.1	159.0	122.6	151.0	98.1
2014-15	117.9	158.7	126.2	140.7	107.2
	Base Year 2015-16				
2015-16	100.0	100.0	100.0	100.0	100.0
2016-17	104.1	116.4	100.7	115.3	107.6
2017-18	97.8	112.0	109.5	127.3	120.5
2018-19	95.0	129.5	105.9	102.6	99.4
2019-20	98.5	149.1	109.0	101.4	92.2
2020-21	107.1	169.6	123.8	123.7	71.3
2021-22 R	102.2	180.7	137.1	135.4	84.0
2022-23 P	107.8	193.2	107.7	139.1	49.5

P: Provisional **R: Revised** **Source: Pakistan Bureau of Statistics**

TABLE 2.1 B

BASIC DATA ON AGRICULTURE

Fiscal Year	Cropped Area (million hectares)	Improved Seed distribution (000 Tonnes)	Water ^ Availability (MAF)	Fertilizer Offtake (000 N/T)	Credit Disbursed (Rs million)	Tubewells Public & Private (Number in 000)
2010-11	22.72	331.02	137.16	3,933	263,022	1,103.4
2011-12	22.50	346.38	135.86	3,861	293,850	997.7
2012-13	22.56	327.08	137.51	3,621	336,247	1,220.4
2013-14	23.16	359.18	137.51	4,089	391,353	1,317.3
2014-15	23.26	481.30	138.59	4,316	515,875	1,332.9
2015-16	24.04	431.79	133.00	3,699	598,287	1,357.0
2016-17	23.01	554.95	132.70	5,040	704,488	1,382.2
2017-18	23.45	604.58	133.40	4,763	972,606	1,391.3
2018-19	23.45	554.13	127.40	4,614	1,173,990	1,285.8
2019-20	24.10	550.77	130.00	4,549	1,214,684	1,285.8
2020-21	23.90	616.76	131.50	5,008	1,365,870	1,285.8
2021-22	23.90	778.22	131.02	5,001	1,418,906	1,285.8 *
2022-23 P	-	655.89	-	3,311	1,221,918	-

(Contd.)

TABLE 2.1 B (Continued)

BASIC DATA ON AGRICULTURE

Fiscal Year	Production of Tractors (Nos)	Production of meat (000 Tonnes)	Milk (000 Tonnes)	Fish Production (000 Tonnes)	Total Forest Production (000 cu.mtr.)
2010-11	71,550	3,094	37,475	699.9	352
2011-12	48,120	3,232	38,617	724.8	354
2012-13	48,871	3,379	39,855	728.8	354
2013-14	34,521	3,531	41,133	735.0	-
2014-15	45,860	3,696	42,454	765.0	-
2015-16	33,883	3,873	43,818	788.0	-
2016-17	53,499	4,061	45,227	797.0	-
2017-18	52,551	4,262	46,682	807.0	-
2018-19	37,457	4,478	48,185	799.0	-
2019-20	32,451	4,708	49,737	804.0	-
2020-21	36,900	4,954	51,340	810.0	-
2021-22	58,880	5,220	52,996	812.0	-
2022-23 P	22,626	5,503	54,707	700.0	-

P : Provisional **- : Not available**
^: At farm gate ***: Repeated**

Source: Pakistan Bureau of Statistics
Ministry of National Food Security and Research
Ministry of Planning, Development & Special Initiatives

TABLE 2.2

LAND UTILIZATION

Million Hectares

Fiscal Year	Total Area	Reported Area	Forest Area	Not Avail-able for Cultivation	Culturable Waste	Cultivated Area			Area Sown more than once	Total Cropped Area
						Current Fallow	Net Area Sown	Total Area Cultivated		
	1	2	3	4	5	6	7	8	9	10
2010-11	79.61	57.64	4.26	23.37	7.98	6.38	15.65	22.03	7.07	22.72
2011-12	79.61	57.73	4.26	23.25	8.19	7.05	14.98	22.03	7.52	22.50
2012-13	79.61	57.78	4.26	23.06	8.21	7.04	15.22	22.26	7.34	22.56
2013-14	79.61	57.99	4.55	25.56	8.27	6.68	15.40	22.06	7.76	23.16
2014-15	79.61	57.99	4.54	25.54	8.30	6.66	15.46	23.24	7.82	23.26
2015-16	79.61	58.11	3.99	25.56	8.27	7.10	15.62	22.74	7.90	24.04
2016-17	79.61	58.00	4.47	25.54	8.37	9.51	15.59	22.11	7.46	23.01
2017-18	79.61	58.02	4.47	25.60	8.29	9.40	15.74	22.15	7.75	23.45
2018-19	79.61	57.90	4.47	23.00	8.29	9.40	15.74	22.15	7.75	23.45
2019-20	79.60	57.90	3.90	23.10	8.20	10.10	15.74	22.80	8.40	24.10
2020-21	79.60	57.90	3.90	23.40	8.10	6.80	15.60	22.50	8.20	23.90
2021-22 P	79.60	58.00	3.90	23.40	8.20	6.80	15.50	22.50	8.30	23.90

P: Provisional

Source: Pakistan Bureau of Statistics
Ministry of National Food Security and Research

Note:

1. Total Area Reported is the total physical area of the villages/deh, tehsils or districts, etc.

2. Forest Area is the area of any land classed or administered as forest under any legal enactment dealing with forests. Any cultivated area which may exist within such forest is shown under heading "cultivated area".

3. Area Not Available for Cultivation is that uncultivated area of the farm which is under farm home-steads, farm roads and other connected purposes and not available for cultivation.

4. Culturable Waste is that uncultivated farm area which is fit for cultivation but was not cropped during the year under reference nor in the year before that.

5. Current Fallow (ploughed but uncropped) is that area which is vacant during the year under reference but was sown at least once during the previous year.

Cultivated Area is that area which was sown at least during the year under reference or during the previous year.

Cultivated Area = Net Area Sown + Current Fallow.

6. Net Area Sown is that area which is sown at least once during (Kharif & Rabi) the year under reference.

7. Area Sown more than once is the difference between the total cropped area and the net area sown.

8. Total Cropped Area means the aggregate area of crops raised in a farm during the year under reference including the area under fruit trees.

TABLE 2.3

AREA UNDER IMPORTANT CROPS

000 Hectares

Fiscal Year	Wheat	Rice	Bajra	Jowar	Maize	Barley	Total Food Grains	Gram	Sugar-cane	Rapeseed and Mustard	Sesa-mum	Cotton	Tobacco
2010-11	8,901	2,365	548	229	974	77	13,094	1,054	988	212	78	2,689	51
2011-12	8,650	2,571	458	214	1,087	72	13,052	1,008	1,058	201	76	2,835	46
2012-13	8,660	2,309	461	198	1,060	73	12,761	992	1,129	224	71	2,879	50
2013-14	9,199	2,789	475	198	1,168	71	13,900	950	1,173	220	82	2,806	49
2014-15	9,204	2,891	462	195	1,142	68	13,962	943	1,141	214	83	2,961	54
2015-16	9,224	2,739	486	274	1,191	66	13,980	940	1,131	201	79	2,902	53
2016-17	8,972	2,724	469	256	1,348	61	13,830	971	1,218	190	80	2,489	47
2017-18	8,797	2,901	489	255	1,251	58	13,751	977	1,342	199	83	2,700	46
2018-19	8,678	2,810	456	241	1,374	57	13,616	943	1,102	237	83	2,373	45
2019-20	8,805	3,034	522	199	1,404	49	14,013	944	1,040	353	139	2,517	51
2020-21	9,168	3,335	350	126	1,418	42	14,439	883	1,165	224	170	2,079	55
2021-22	8,977	3,537	227	77	1,653	38	14,509	862	1,260	276	200	1,937	44
2022-23 P	9,043	2,976	241	59	1,720	36	14,075	830	1,319	509	260	2,144	44

P: Provisional **Source: Pakistan Bureau of Statistics**

Note: 1 ha = 2.47 acres

TABLE 2.4

PRODUCTION OF IMPORTANT CROPS

000 Tonnes

Fiscal Year	Wheat	Rice	Bajra	Jowar	Maize	Barley	Total Food Grains	Gram	Sugar-cane	Rape-seed and Mustard	Sesa-mum	Cotton		Tob-acco
												(000 tonnes)	(000 Bales)	
2010-11	25,214	4,823	346	141	3,707	71	34,302	496	55,309	188	31.0	1,949	11,460	103
2011-12	23,473	6,160	304	137	4,338	66	34,478	284	58,397	164	30.2	2,310	13,595	98
2012-13	24,211	5,536	311	123	4,220	67	34,468	751	63,750	205	29.2	2,214	13,031	108
2013-14	25,979	6,798	301	119	4,944	67	38,208	399	67,460	203	32.4	2,170	12,769	130
2014-15	25,086	7,003	294	115	4,937	63	37,498	379	62,826	196	33.1	2,372	13,960	120
2015-16	25,633	6,801	300	161	5,271	61	38,227	286	65,482	185	31.8	1,688	9,917	116
2016-17	26,674	6,849	305	148	6,134	58	40,168	330	75,482	181	34.1	1,815	10,671	100
2017-18	25,076	7,450	339	153	5,902	55	38,975	323	83,333	225	35.2	2,032	11,946	107
2018-19	24,349	7,202	350	149	6,826	55	38,931	447	67,174	302	35.7	1,677	9,861	104
2019-20	25,248	7,414	384	120	7,883	48	41,097	498	66,380	488	64.4	1,556	9,148	133
2020-21	27,464	8,420	266	96	8,940	42	45,228	234	81,009	296	102.2	1,202	7,064	168
2021-22	26,209	9,323	226	64	9,525	38	45,385	316	88,651	402	128.0	1,417	8,329	134
2022-23 P	27,634	7,322	256	49	10,183	37	45,481	238	91,111	796	152.3	835	4,910	134

P: Provisional **Source: Pakistan Bureau of Statistics**

TABLE 2.5

YIELD PER HECTARE OF MAJOR AGRICULTURAL CROPS

Kg/Hectare

Fiscal Year	Wheat	Rice	Sugarcane	Maize	Gram	Cotton
2010-11	2,833	2,039	55,981	3,806	471	725
2011-12	2,714	2,396	55,196	3,991	282	815
2012-13	2,796	2,398	56,466	3,981	757	769
2013-14	2,824	2,437	57,511	4,233	420	774
2014-15	2,726	2,422	55,062	4,323	402	802
2015-16	2,779	2,483	57,897	4,426	304	582
2016-17	2,973	2,514	61,972	4,550	340	729
2017-18	2,851	2,568	62,096	4,718	331	753
2018-19	2,806	2,563	60,956	4,968	474	707
2019-20	2,868	2,444	63,841	5,614	528	618
2020-21	2,996	2,525	69,534	6,305	265	578
2021-22	2,920	2,635	70,341	5,764	367	731
2022-23 P	3,056	2460	69,085	5,922	287	390

P: Provisional **Source: Pakistan Bureau of Statistics**

TABLE 2.6

PRODUCTION AND EXPORT OF FRUIT

000 Tonnes

Fiscal Year	Production of Important Fruit								Export	
	Citrus	Mango	Apple	Banana	Apricot	Almonds	Grapes	Guava	Quantity	Value (Mln. Rs)
2010-11	1,982	1,889	526	139	190	22	64	547	669	25,017
2011-12	2,147	1,700	599	97	189	21	64	495	737	32,068
2012-13	2,002	1,680	556	116	179	22	64	500	718	38,085
2013-14	2,168	1,659	606	119	178	22	66	496	784	45,196
2014-15	2,395	1,717	617	118	171	22	66	488	682	44,375
2015-16	2,344	1,636	620	135	173	22	66	523	677	44,607
2016-17	2,180	1,784	670	137	166	21	66	548	646	39,878
2017-18	2,351	1,734	565	135	142	21	67	586	697	43,842
2018-19	2,469	1,723	544	136	108	20	68	548	756	56,272
2019-20	2,369	1,639	604	151	94	20	82	706	798	67,769
2020-21	2,621	1,714	672	142	124	21	89	963	975	76,846
2021-22	2,371	1,845	732	216	159	19	108	938	622	84,385
2022-23 P	2371	1786	733	216	160	19	108	938	533	52,458

P: Provisional (Jul-Mar) **Source: Pakistan Bureau of Statistics**

TABLE 2.7

CROP WISE COMPOSITION OF OUTPUT OF IMPORTANT AGRICULTURAL CROPS (AT CONSTANT BASIC PRICES)

% Share

Fiscal Year/ Crops	Base Year 2005-06		Base Year 2015-16							
	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22 R	2022-23 P
Important Crops	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Food Crops	61.21	59.94	66.04	65.07	61.56	66.21	68.43	70.65	68.09	71.69
Wheat	40.29	38.63	46.25	44.97	41.41	43.09	43.63	44.14	40.85	44.84
Maize	8.88	8.83	9.65	10.47	9.87	12.24	13.76	14.50	14.93	16.62
Rice	12.04	12.49	10.14	9.63	10.28	10.88	11.04	12.01	12.31	10.23
Cash Crop	13.09	12.11	16.27	17.13	18.92	16.47	15.92	18.08	19.12	20.46
Sugarcane	13.09	12.11	16.27	17.13	18.92	16.47	15.92	18.08	19.12	20.46
Fibre Crop	25.70	27.95	17.70	17.79	19.53	17.32	15.66	11.26	12.79	7.86
Cotton	25.70	27.95	17.70	17.79	19.53	17.32	15.66	11.26	12.79	7.86

P: Provisional R: Revised Source: Pakistan Bureau of Statistics

TABLE 2.8

CREDIT DISBURSED BY AGENCIES

Rs Million

Fiscal Year	ZTBL	DPBs	PPCBL	Commercial Banks	MFBs	Islamic Banks*	MFIs/ RSPs **	Total
2010-11	65,361	50,187	7,162	140,312	-	-	-	263,022
2011-12	66,068	60,876	8,520	146,271	12,115	-	-	293,850
2012-13	67,068	69,271	8,304	172,833	18,770	-	-	336,247
2013-14	77,920	84,813	8,809	195,488	22,796	1,527	-	391,353
2014-15	95,827	108,708	10,486	262,912	32,951	4,991	-	515,875
2015-16	90,977	123,097	10,335	311,401	53,938	8,540	-	598,287
2016-17	92,451	139,061	10,880	342,068	87,772	12,326	19,930	704,488
2017-18	83,187	184,863	10,724	523,930	124,756	16,392	28,754	972,606
2018-19	71,478	211,942	9,677	653,531	153,998	39,379	33,984	1,173,990
2019-20	62,286	224,970	8,825	708,245	139,298	42,143	28,917	1,214,684
2020-21	78,500	274,525	8,205	801,472	132,070	47,815	23,281	1,365,870
2021-22	69,216	298,719	7,516	764,338	186,344	66,579	26,195	1,418,906
2022-23 P	47,074	259,633	6,200	666,728	158,691	62,007	21,585	1,221,918

P: Provisional (Jul-Mar) - : Not available Source: State Bank of Pakistan

ZTBL: Zarai Taraqiati Bank Limited

DPBs: 13 Domestic Private Banks

PPCBL: Punjab Provincial Corporative Bank Limited

Commercial Banks: Include ABL, HBL, MCB, NBP & UBL

MFBs: 11 Microfinance Banks

*: 6 Islamic Banks

**: 9 Microfinance Institutions / Rural Support Programmes

TABLE 2.9

FERTILIZER OFFTAKE AND IMPORTS OF FERTILIZERS & PESTICIDES

000 N/Tonnes

Fiscal Year	Fertilizer Offtake				Import of Fertilizers	Import of Insecticides	
	Nitrogen	Phosphorus	Potash	Total		Quantity (Tonnes)	Value (Mln Rs.)
2010-11	3,134	767	32	3,933	645	36,183	13,178
2011-12	3,207	633	21	3,861	1,177	32,152	12,255
2012-13	2,853	747	21	3,621	735	17,882	8,507
2013-14	3,185	881	24	4,089	1,148	23,546	12,572
2014-15	3,309	975	33	4,316	984	23,157	14,058
2015-16	2,672	1,007	20	3,699	901	17,386	15,974
2016-17	3,730	1,269	41	5,040	961	18,088	16,680
2017-18	3,435	1,279	50	4,763	1,191	26,480	19,162
2018-19	3,408	1,153	53	4,614	1,093	29,117	25,909
2019-20	3,415	1,084	50	4,549	890	32,089	29,572
2020-21	3,711	1,228	69	5,008	884	37,441	30,083
2021-22	3,838	1,092	71	5,001	684	34,316	36,266
2022-23 P	2,718	569	25	3,311	441	27,346	34,689

P: Provisional (Jul-Mar)

Source: Pakistan Bureau of Statistics
National Fertilizer Development Centre

TABLE 2.10

AVERAGE RETAIL SALE PRICES OF FERTILIZERS

Rs per bag of 50 Kgs

Fiscal Year	Urea	AN/CAN	AS	NP	SSP(G)	DAP	SOP
2010-11	1,035	843	1,124	2,108	896	3,236	2,807
2011-12	1,719	1,392	-	2,691	1,260	4,054	3,797
2012-13	1,799	1,443	-	2,524	1,172	3,902	3,945
2013-14	1,827	1,566	-	2,513	1,050	3,640	4,233
2014-15	1,883	1,606	-	2,584	1,012	3,677	4,904
2015-16	1,860	1,564	-	2,339	973	3,343	5,131
2016-17	1,378	1,198	-	1,869	886	2,596	4,100
2017-18	1,386	1,241	-	2,175	890	2,882	3,659
2018-19	1,745	1,571	-	2,829	1,002	3,518	3,945
2019-20	1,850	1,700	-	2,695	1,068	3,558	4,299
2020-21	1,698	1,547	-	3,144	1,249	4,432	4,462
2021-22	1,913	1,686	-	5,371	1,968	8,227	7,727
2022-23 P	2,803	2,673	-	5,952	2,555	10,544	12,907

P: Provisional (Jul-Mar) -: Not available

Source: Pakistan Bureau of Statistics
National Fertilizer Development Centre

AN/CAN: Ammonium Nitrate/Calcium Ammonium Nitrate

AS: Ammonium Sulphate DAP: Diammonium Phosphate

NP: Nitrophosphate SOP: Sulphate of Potash

SSP: Single Super Phosphate

TABLE 2.11

AREA IRRIGATED BY DIFFERENT SOURCES

Million Hectares

Fiscal Year	Canals	Wells	Canal Wells	Tubewells	Canal Tubewells	Others	Total
2010-11	6.00	0.36	0.25	3.92	7.60	0.72	19.16
2011-12	5.59	0.35	0.19	4.03	7.86	0.72	18.99
2012-13	5.22	0.30	0.19	3.81	7.86	0.19	18.68
2013-14	5.55	0.38	0.27	3.71	8.15	0.17	19.28
2014-15	5.55	0.38	0.27	3.71	8.15	0.17	19.28
2015-16	5.59	0.35	0.30	4.48	8.19	0.26	19.33
2016-17	5.56	0.10	0.30	3.57	7.89	0.21	18.91
2017-18	5.66	0.43	0.28	3.57	8.19	0.21	19.32
2018-19	5.42	0.27	0.28	3.75	8.23	0.16	19.16
2019-20	5.55	0.26	0.25	4.04	8.51	0.25	19.90
2020-21	5.31	0.28	0.24	3.98	8.75	0.23	20.18
2021-22 P	5.31	0.28	0.24	3.98	8.75	0.23	20.18

P: Provisional

Source: Pakistan Bureau of Statistics
Ministry of National Food Security & Research

TABLE 2.12

PROCUREMENT/SUPPORT PRICES OF AGRICULTURAL COMMODITIES

Rs per 40 Kg

Fiscal Year	Wheat	Sugarcane* (at factory gate)			Seed Cotton (Phutti)
		Khyber Pakhtunkhwa	Punjab	Sindh	
2010-11	950	125	125	125	-
2011-12	1,050	150	150	154	-
2012-13	1,200	170	170	172	-
2013-14	1,200	170	170	172	-
2014-15	1,300	180	180	182	3,000
2015-16	1,300	180	180	172	3,000
2016-17	1,300	180	180	182	-
2017-18	1,300	180	180	182	-
2018-19	1,300	180	180	182	-
2019-20	1,400	190	190	192	-
2020-21	1,800	200	200	202	-
2021-22	2,200	225	225	250	5,000
2022-23	3,900	300	300	302	8,500

* : Sugarcane prices are notified by the respective Provincial Governments

Source: Ministry of National Food Security & Research

TABLE 2.13

PROCUREMENT, RELEASES AND STOCKS OF WHEAT

000 Tonnes

Fiscal Year	Wheat (May-April)		
	Procurement	Releases	Stocks
2010-11	6,150.0	6,404.0	3,186.0
2011-12	5,792.0	5,820.0	3,506.0
2012-13	7,910.0	6,363.0	1,681.0
2013-14	5,948.0	6,149.0	7,566.0
2014-15	6,139.0	3,380.0	6,447.0
2015-16	5,806.0	4,468.1	6,284.0
2016-17	6,516.0	-	4,531.0
2017-18	5,942.0	-	9,858.0
2018-19	4,034.0	-	3,777.0
2019-20	6,596.0	1,846.3	602.2
2020-21	5,810.5	3,894.0	8,144.1
2021-22	6,614.0	7,130.0	2,030.7
2022-23 P	3,144.1*	8,841.0**	4,641.5^

P: Provisional - : Not available Source: Ministry of National Food Security & Research

*: As on 02-05-2023
Procurement is still in progress till July against the target for 2022-23 of 6.800 million tonnes
**: As on 04-04-2023 ^: As on 02-05-2023

TABLE 2.14

LIVESTOCK POPULATION

Million Numbers

Fiscal Year	Buffalo	Cattle	Goat	Sheep	Poultry	Camels	Asses	Horses	Mules
2010-11	31.7	35.6	61.5	28.1	663.0	1.0	4.7	0.4	0.2
2011-12	32.7	36.9	63.1	28.4	721.0	1.0	4.8	0.4	0.2
2012-13	33.7	38.3	64.9	28.8	785.0	1.0	4.9	0.4	0.2
2013-14	34.6	39.7	66.6	29.1	855.0	1.0	4.9	0.4	0.2
2014-15	35.6	41.2	68.4	29.4	932.0	1.0	5.0	0.4	0.2
2015-16	36.6	42.8	70.3	29.8	1,016.0	1.0	5.1	0.4	0.2
2016-17	37.7	44.4	72.2	30.1	1,108.0	1.1	5.2	0.4	0.2
2017-18	38.8	46.1	74.1	30.5	1,210.0	1.1	5.3	0.4	0.2
2018-19	40.0	47.8	76.1	30.9	1,321.0	1.1	5.4	0.4	0.2
2019-20	41.2	49.6	78.2	31.2	1,443.0	1.1	5.5	0.4	0.2
2020-21	42.4	51.5	80.3	31.6	1,578.0	1.1	5.6	0.4	0.2
2021-22	43.7	53.4	82.5	31.9	1,725.0	1.1	5.7	0.4	0.2
2022-23	45.0	55.5	84.7	32.3	1,887.0	1.1	5.8	0.4	0.2

Note: Estimated figures based on inter census growth rate of Livestock Census 1996 & 2006

Source: Ministry of National Food Security & Research

TABLE 2.15

LIVESTOCK PRODUCTS

000 Tonnes

Fiscal Year	Milk*	Beef	Mutton	Poultry Meat	Wool	Hair	Bones	Fats	Blood	Eggs (Mln.Nos.)	Hides (Mln.Nos.)	Skins (Mln.Nos.)
2010-11	37,475	1,711	616	767	42.5	23.2	735.1	234.8	58.3	12,857	13.5	48.5
2011-12	38,617	1,769	629	834	43.0	23.8	757.5	241.7	59.8	13,114	13.9	49.6
2012-13	39,855	1,829	643	907	43.6	24.4	780.5	248.8	61.3	13,813	14.4	50.7
2013-14	41,133	1,887	657	987	44.1	25.1	802.9	255.8	62.8	14,556	14.9	51.9
2014-15	42,454	1,951	671	1,074	44.6	25.8	827.2	263.3	64.4	15,346	15.4	53.1
2015-16	43,818	2,017	686	1,170	45.1	26.5	852.3	271.0	66.1	16,188	15.9	54.3
2016-17	45,227	2,085	701	1,276	45.7	27.2	878.2	279.0	67.8	17,083	16.4	55.5
2017-18	46,682	2,155	717	1,391	46.2	27.9	904.9	287.3	69.5	18,037	17.0	56.8
2018-19	48,185	2,227	732	1,518	46.8	28.6	932.5	295.8	71.3	19,052	17.5	58.1
2019-20	49,737	2,303	748	1,657	47.3	29.4	961.0	304.5	73.1	20,133	18.1	59.5
2020-21	51,340	2,380	765	1,809	47.9	30.2	990.3	313.6	75.0	21,285	18.8	60.8
2021-22	52,996	2,461	782	1,977	48.4	31.0	1,020.7	322.9	77.0	22,512	19.4	62.3
2022-23	54,707	2,544	799	2,160	49.0	31.8	1,052.0	332.5	79.0	23,819	20.0	63.7

***: Human Consumption**

Source: Ministry of National Food Security & Research

Note: From 2006-07 onward figures estimates are based on Inter census growth rate of Livestock Census 1996 & 2006